

Claims

What is claimed is:

1. A reset relief valve comprising:

a body having an inlet port, an outlet port, and an interior wall partially defining an enclosed chamber;

a piston disposed in said body and moveable between a first position at which said piston is disposed in fluid flow-blocking relationship between said inlet port and said outlet port of the body and a second position at which said piston is removed from said fluid flow-blocking position;

said piston having a head which partially defines a first chamber and at least one flow passageway extending between said chamber in said body and a second chamber having a lower surface defined in part by a disc disposed in a cavity in said piston head;

a bonnet attached to said body;

a stem bushing disposed in said bonnet in spaced relationship with the head of said piston, said stem bushing having a surface defining another portion of said first chamber and an internal bore in which said stem is slidably supported;

at least one spring and at least two pivotally interconnected link members operatively disposed between said spring and said stem; and

crank assembly for selectively engaging said pivotally interconnected link members for urging said piston into said first position.

2. A reset relief valve as claimed in claim 1 wherein said crank assembly includes at least one spring and at least two pivotally interconnected link members operatively disposed between said spring and said stem.
3. A reset relief valve as claimed in claim 1 wherein said crank assembly includes a release shaft extending through a wall of said bonnet and having one end disposed in biased abutting contact with one of said pivotally interconnected link members when said piston is at said first position.
4. A reset relief valve as claimed in claim 1 wherein said piston has at least one cylindrical fluid communication path between said area above said disc and said chamber above said piston.
5. A reset relief valve as claimed in claim 1 wherein said crank assembly has a crank composed of a first and second arm connected by a cross bar.
6. A reset relieve valve as claimed in claim 1 wherein said first and second chambers are filled with fluid.
7. A reset relief valve as claimed in claim 6 wherein said fluid is oil.

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8. A reset relief valve as claimed in claim 1 further comprising a longitudinal member disposed at the bottom of said piston chamber to prevent downward movement of said disc.

9. A reset relief valve as claimed in claim 8 wherein said member is a T-shaped bar positioned along the longitudinal axis of the piston at the inlet port.

10. A reset relief valve comprising:

a body having an inlet port, an outlet port, and an interior wall partially defining an enclosed chamber;

a partially hollowed out piston disposed in said body and moveable between a first position at which said piston is disposed in fluid flow-blocking relationship between said inlet port and said outlet port of the body and a second position at which said piston is removed from said fluid flow-blocking position;

piston having a head with opposed surfaces one of which defines a first chamber and at least one fluid flow passageway extending through said head and providing fluid communication between said first chamber in said body and a second chamber having a lower surface defined by an inner piston disposed in a hollow portion of said piston head;

a bonnet attached to said body;

a stem bushing disposed in said bonnet in spaced relationship with the head of said piston, said stem bushing having a surface defining another portion of said enclosed chamber and an internal bore in which said stem is slidably supported; and

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crank assembly for urging said piston into said first position.

11. A reset relief valve as claimed in claim 9 wherein said disc is comprised of a inner piston body attached to a cap.

12. A reset relief valve as claimed in claim 9 further comprising a longitudinal member in said enclosed chamber for preventing downward movement of said disc.

13. A reset relief valve as claimed in claim 9 wherein said crank assembly has at least one tab for engaging said pivotally interconnected link members at a link between said members.

14. A reset relief valve as claimed in claim 9 wherein said piston head has an opening through said hollow portion.

15. A reset relief valve as claimed in claim 9 wherein said crank assembly includes at least one spring and at least two pivotally interconnected upper and lower link members operatively disposed between said spring and said stem wherein said lower link is substantially oval along its planar surface.